

MEDICAL CHRONICLE

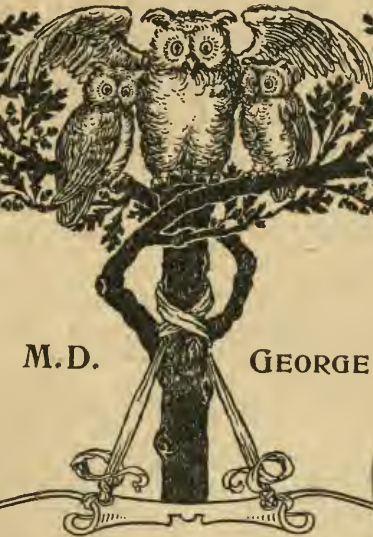
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PEDIATRICS



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Report of Eight Cases Treated with Gude's Pepto-Mangan.

See MEDICAL RECORD, June 3, 1893, page 695.

ANÆMIA

CASE I.—D. G.—, female, aged seventy-eight, entered Bellevue Hospital suffering with pelvic cellulitis, the symptoms of which disappeared at the end of a week. The patient was fairly well nourished, but with an excessively pale, waxy color. Examination of blood showed eight per cent of hæmoglobin and 3,000,000 corpuscles to a cubic millimetre. After thirty-four days taking the preparation the amount of hæmoglobin had increased to eleven per cent, and the corpuscles to 4,800,000.

RICKETS

CASE II.—E. W.—, aged seventeen, had the most profound anemia after recovering from a severe attack of scarlet fever. Examination of blood showed six and one half per cent hæmoglobin, and 2,513,000 corpuscles to a cubic millimetre. After taking the preparation forty days the amount of hæmoglobin had increased to ten per cent and the corpuscles to 4,500,000.

**BRIGHT'S
DISEASE**

CASE III.—A. W.—, female, aged twenty-two, had been excessively anæmic for over a year; complained of headaches, ringing in ears, diarrhoea, neuralgic pains, no organic lesion. Blood showed seven per cent hæmoglobin and 3,500,000 corpuscles to a cubic millimetre; the corpuscles themselves were changed, some being microcytes and polichocytes. After twenty-three days the treatment was stopped, as the hæmoglobin was normal in amount and the corpuscles had increased to 5,000,000 to each cubic millimetre. The result in this case was the most pronounced of any.

AMENORRÆA

CASE IV.—Charles M.—, aged twenty-one, subacute pleurisy lasting six weeks, very anæmic; no fever, some loss in flesh. Had taken *syn. ferri iodidi* for a month, with but slight improvement in general appearance. Hæmoglobin eight and one half per cent; corpuscles 3,800,000 to each cubic millimetre. At the end of twenty days, when the treatment was stopped, the hæmoglobin had increased one and one half per cent, and the corpuscles to 4,600,000; the fluid in the chest had disappeared.

CHLOROSIS

CASE V.—F. B.—, female, aged twenty-two, was admitted to the hospital suffering from insufficiency of the mitral valve. Presented the pale and anæmic appearance seen in cardiac disease. After the patient had improved so that she was up and about the ward she was put on the pepto-mangan (Gude). The examination of the blood at that time showed eight and one half per cent of hæmoglobin and 4,600,000 corpuscles to the cubic millimetre. After taking the preparation twenty-five days the hæmoglobin was eleven per cent, and the corpuscles 4,000,000 per cubic millimetre.

CASE VI.—B. M.—, aged twenty-four, suffering from primary anemia and menstrual disturbances. No organic lesion. Hæmoglobin ten per cent, corpuscles 3,000,000 per cubic millimetre. After taking the preparation forty-three days the amount of hæmoglobin remained at ten per cent, but the corpuscles had increased 1,200,000 per cubic millimetre.

CASE VII.—C. V.—, aged fifteen, presented the ordinary appearances of the anæmic girl at the age of puberty. No organic lesion. Hæmoglobin eight per cent, corpuscles 2,800,000. The examination of the blood after taking the pepto-mangan (Gude) forty days showed that the hæmoglobin was normal in amount, and that there were 4,000,000 corpuscles to each cubic millimetre of blood.

CASE VIII.—M. M.—, female, aged twenty-four; six weeks after ovariectomy; presented a markedly anæmic appearance. Had shown a slight improvement in color after taking Blaud's pills for three weeks. These were stopped, and the iron and manganese preparation given. Examination of blood showed eight per cent hæmoglobin, and 3,200,000 corpuscles per cubic millimetre. After forty-eight days the hæmoglobin had increased two and a half per cent, and the corpuscles 1,300,000.

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No. 4.

Original Articles.

A CASE OF MUMPS WITH EDEMA OF THE CORRESPONDING EYE AND SIDE OF THE HEAD SIMULATING MASTOID DISEASE.

By GEORGE CARPENTER, M. D.,
London.

ON October the 27th, 1892, Mary A. O. H., aet. $3\frac{1}{2}$ years, was sent to me for consultation by Dr. Frederick Nicholls, of Croydon, to the Evelina Hospital, as he feared that there was suppurative mastoiditis, secondary to ear trouble, and that it might be necessary to admit her for operation. When she arrived she looked ill. Her pulse was 100 to the minute, the respirations 28 to the minute, and the temperature 96.6° F. The most noticeable feature in her appearance was a considerable amount of edema of the left side of her head. The edema extended upwards nearly to the mid-line of the vertex, backwards to the occiput nearly; the mastoid was edematous, and the corresponding eye swollen. The ear was examined and the drum was found healthy in every respect. She complained of ear-ache during the necessary manipulations. The jugular veins were not implicated. The fundus of either eye was found to be perfectly healthy. Further examination, however, showed that the parotid gland was involved, being swollen and hard, and that the corresponding submaxillary gland was enlarged. An enlarged gland, the size of a bantam's egg, was detected under the right sterno-mastoid muscle, parallel to the ramus of the jaw, and falling short of the deep attachment of the parotid. The throat was healthy. With the exception of a trace of albumin in the urine there were no physical signs.

The parotid was still swollen on October the 31st, but very

much smaller, and the submaxillary gland was not enlarged. The edema over the mastoid had disappeared, and the cervical gland on the right side was very much smaller. The albumin had disappeared, and the child was happy and contented. The temperature continued subnormal. On November the 3d the deep cervical glands on both sides were swollen, and there was still some hardness about the left parotid, but much less than formerly. The temperature remained persistently subnormal. Pulse 126. Resps. 28. Nothing further worthy of note occurred during her stay in hospital, and she was discharged quite well in the ordinary course.

Remarks.—The case is of interest from its simulating, at the first glance, mastoid trouble and from the fact that hemi-cranial edema should stand out as the prominent feature in a case of parotitis. I have not met with this complication before, or since the above date, and the text-books do not call attention to such an addition to this disorder. There is an anatomical explanation of the peculiar distribution of the edema which I think worthy of remark, but there were, possibly, additional factors at work; for pressure on the main trunk of a vein is not, as a rule, sufficient to account for dropsy over the area supplied by its tributaries. The case is published as a clinical record of a certain unusual complication and not as a peg on which to hang a thesis. Whatever the explanation, the venous anatomy is doubtless one factor contributing to the result, as will probably be admitted when this venous distribution is called to mind. The terminations of the temporal, transverse facial, and posterior auricular veins are in close anatomical relationship with the parotid gland, and their junction just below the ear and in front of the anterior border of the sterno-mastoid muscle will doubtless be remembered, as also their distribution, viz., to the eye, to the side of the head, and to the mastoid and scalp above and beyond it.



SOME REMARKS ON DIPHTHERIA.*

By WILLIAM CHEATHAM, M. D.

Professor of Ophthalmology, Otology and Laryngology in the Louisville Medical College, Louisville, Ky.

WE all recognize the importance of bacteriological examination in cases of diphtheria, or in cases where we suspect diphtheria, and I simply wish to briefly report a few instances where the most careful tests by competent bacteriologists failed to detect the characteristic organism in cases of undoubted clinical diphtheria.

CASE 1ST.—Is a little girl who has had a severe attack of undoubted diphtheria, so diagnosticated clinically, and she has had all the sequelæ of a typical case. Membrane in the throat was abundant and characteristic; there was some paralysis of the bowel; albumin and casts in the urine; enlarged glands, etc. A specimen of the secretion from the throat was secured and several careful bacteriologic examinations made, the bacteriologists in each instance reporting that no bacilli were found.

CASE 2D.—A little boy, six or seven years of age, developed symptoms which indicated diphtheritic trouble, but I was rather doubtful as to whether it was a case of true diphtheria or simple tonsillar trouble. Bacteriological examination by Dr. Koehler showed a negative result. The child has since developed membrane on the anterior pillar of the fauces, also the uvula, but a second bacteriological examination results in the finding of no bacilli.

Now here are two cases, one of which I am positive is diphtheria, but the second is doubtful. Bacteriological examination did not reveal the Klebs-Loeffler bacillus in either. I would like to have the bacteriologists present give us some reason for not finding the bacillus in the first case, which is one of undoubted diphtheria. Both cases were treated with antitoxin, and in the first one the throat had been sprayed with antiseptics before I saw the patient.

I read to-day in one of our medical journals an article in which the immunizing effects of antitoxin were thoroughly discussed. The author stated that in one of the New York hospitals, I think the Children's, that they had in 108 days 107 cases of diphtheria. They were absolutely unable to control the epidemic by the employment of all the usual methods of prevention. Under the immunizing effects of antitoxin 5 new cases developed in 112 days. In other hospitals where they had 1,014 cases of diphtheria the number was reduced to 16 cases after immunizing injections of antitoxin. The

* Reported to the Louisville Clinical Society.

time of immunization has also been extended from two weeks to thirty days by careful observation. Another point brought out in the paper was the question of kidney lesions following the injection of antitoxin. In thirty-seven cases the urine was examined before injection of antitoxin. In one case there was thirty per cent of albumin; two days afterwards, sixty per cent; four days afterwards, no albumin. In another case there was simply a trace of albumin on the ninth day of August; that day they gave the child an injection of antitoxin, and on the eleventh day they found no albumin. In one case they found sixteen per cent of albumin the second day after the injection, and on the fourth day there was no albumin. The amount of antitoxin used was from 50 to 600 units. In the majority of the cases the Klebs-Loeffler bacillus was found present by bacteriological examination.

DR. J. B. MARVIN: I think Dr. Cheatham himself has given the reason why the bacteriologists failed to discover the Klebs-Loeffler bacillus in the first case he reported, as he states an antiseptic solution had been applied to the throat. The membrane is not made up alone of the Klebs-Loeffler bacilli; in fact, these form a small percentage of the mass. A bacteriological examination should always be made, and before being criticised it should be used in cases where there has been no local application made to the throat, or it may be misleading, as indicated by Dr. Cheatham's remarks.

Again, we ought to bear in mind, even if the bacteriologists report the presence of the Klebs-Loeffler bacillus, it does not always mean that we have a case of diphtheria. The Klebs-Loeffler bacillus may unquestionably be found in a healthy throat. It is like the tubercle bacillus, or any other bacillus, it may be found in any mucous membrane and still not infect the patient. We must have the soil as well as the seed.

DR. CARL WEIDNER: Dr. Marvin has probably given the correct explanation as to why the Klebs-Loeffler bacillus was not found in the case reported by Dr. Cheatham. We cannot be too careful in taking material from the throat for making a bacteriological examination. Of course the gentlemen are all familiar with the fact that we should not apply an antiseptic to the throat if we are to make a bacteriological examination of the secretion. We may secure a specimen of the secretion by use of an ordinary probe or swab, or possibly it would be better to remove for testing purposes a piece of the membrane. If we are careful in our methods, taking care not to disinfect the throat by the application of antiseptics before removing a specimen of the membrane, we can rely pretty positively upon the result.

As to the albumin: Those gentlemen who have had the largest experience with this disease, and have observed it closely, have usually found albumin present at some stage of the disease. If we had more accurate statistics as to the period when albumin usually appeared we could speak more intelligently concerning the effect of antitoxin injections in relation to albumin. Dr. Cheatham mentions one case where there was an increase of albumin from thirty per cent before the injection to sixty per cent afterwards. I believe it is pretty generally admitted that without antitoxin injections we may have albumin in cases of diphtheria, varying in amount and frequency, according to different observers.

As to the immunizing effects of antitoxin we have not had enough experience in the matter to state positively what the results would be. It has been said that one injection renders a child immune for two or three weeks, and one observer gives the limit thirty-one days. The question is still an open one, and I do not see how we can advise such a measure as general vaccination or injection, which would have to be repeated every thirty days. Immunization might be effected in hospitals, but I doubt its practicability anywhere else. We are too far from positive knowledge in regard to immunization to advocate it in general practice in a community.

DR. S. G. DABNEY: I will only touch upon three points suggested by Dr. Cheatham's report. First, the value of the presence or absence of the Klebs-Loeffler bacillus; second, the question of immunization; third, the danger of kidney complications by the administration of antitoxin. In regard to the importance of the Klebs-Loeffler bacillus, it seems to me Dr. Marvin's explanation is the correct one, that this bacillus may be present in the throat without diphtheria. At a recent meeting of this Society I gave a short history of my visit to some of the Eastern hospitals. I was particularly impressed with a remark made by Dr. Buckingham in the Boston City Hospital, that the presence of the Klebs-Loeffler bacillus holds the same relation to diphtheria as does albumin to Bright's disease. Its presence is not proof positive of the disease but presumptive evidence of it. Its absence in the first case reported by Dr. Cheatham may be accounted for by the fact that the child's throat had been disinfected with bichloride of mercury solution and other antiseptics.

As regards immunization: Reports very similar to those referred to by Dr. Cheatham were published some months ago, based upon observations made in New York and Boston hospitals, especially the New York Infant Asylum and the Boston Children's Hospital. In

these cases immunity seemed to be secured for from twenty-eight to fifty days or thereabouts. One or two cases appeared after four weeks.

In a recent issue of the Philadelphia *Medical News* there was an editorial article reviewing the opinions of Drs Chapin, W. H. Porter, and our former townsman, Dr. Vissman, on the effect of antitoxin on the kidney. Their conclusions were based on experiments upon rabbit's kidneys, and the Editor, in commenting upon the report, stated that such conclusions ought to be taken with a great deal of allowance, because it was well known that the kidneys of rabbits were exceedingly prone to disease, showing a reaction from very slight causes. A large number of cases—over 800—were referred to in the same article, in which antitoxin had been used for the purpose of immunity with no considerable reaction of any kind following it, and no decided disturbance of the kidneys, rarely a transient albuminuria, but nothing serious.

I agree with what Dr. Weidner has said concerning the injection of antitoxin for producing immunity. We have so little positive knowledge on the subject at the present time that we cannot form an intelligent opinion. In hospitals it would seem to be practicable, but I hardly see how it could be applied for general immunity in the city. Where there is one case in a family and other children who cannot be isolated, it would be well from our present knowledge on the subject to use it for prevention in them.

DR. LOUIS FRANK : Dr. Marvin has about covered the ground as to the cause of the absence of the Klebs-Loeffler bacillus in many of these cases. It is something like searching for the tubercle bacillus—we may make numerous examinations without finding the bacillus, from the simple fact that the specimen examined may not contain it. We know the Klebs-Loeffler bacillus is very small, and may be overlooked in making the inoculation ; again, it may be present in one portion of the membrane and absent in another. Even if we fail to find the bacillus in our examination, this does not prove that it is not a case of diphtheria, and we might say the same thing is true of tuberculosis. The fact that we find at times the diphtheria bacillus in healthy throats may cause confusion. I cannot see how it would be possible to arrive at a positive conclusion or opinion as to the virulence of an organism merely by a microscopical examination. To be absolutely sure of the virulence of these organisms, which is also true of any organisms, we should make inoculation experiments. It is true this in itself would do away, to a great extent, with the value of the diagnosis, because of the delay

which would be necessary in making such experiments. We also know that after the use of antiseptics all bacteria grow very slowly. Experimental work has shown—I do not know whether true of this bacillus or not, but in pus-producing organisms especially—that it is not the application of the germicide itself to the organism or to the portion being examined, but carrying along into the culture tube a certain amount of the antiseptic, which, while it does not destroy the growth of the organism, will necessarily inhibit its growth. It requires a very small percentage of bichloride of mercury solution to inhibit the growth of bacilli in culture media.

In regard to immunization with antitoxin injections: The subject is certainly a very logical one, and if anything could be done in this direction it would be very desirable. I believe the movement inaugurated by the Women's Club will be productive of benefit in educating the masses in the use of antitoxin, not only as a curative agent at the time diphtheria appears, but also in families where other children are present, as an immunizing agent. I certainly think if this could be done it would be desirable. There is no doubt but the use of antitoxin offers immunity for a certain length of time. If this time can be prolonged sufficiently to do away with the diphtheria already present, it would be of great benefit.

DR. J. W. IRWIN: The question under discussion is extremely interesting, as are all the subjects Dr. Cheatham brings before the society. But I find we are in the midst of many difficulties. First, antitoxin has not been used sufficiently long anywhere to state positively anything about it. It seems to exert some influence in ridding the throat of membrane. Beyond this I have seen no effect produced by antitoxin not obtained by former methods. Within the last seven years I have not lost a case from diphtheria; I have had only one case treated with antitoxin. That case recovered, and the patient seems very feeble and in poor health ever since the attack, which occurred last Spring. I now have under my care a case of diphtheria; the membrane was removed from the throat to-day. The child has been sick eleven days.

I do not place much reliance in the microscope in these cases, nor do I go to the trouble to have bacteriological examinations made. I think every physician who has had experience in diphtheria need hardly ask the bacteriologist as to what diphtheria really is. The appearance of the membrane, appearance of the child, and the history of the illness, when taken into account, is quite sufficient to determine that it is a case of diphtheria. Physicians place too much reliance in the use of the microscope. It may be of some use, but,

for all practical purposes, it is of no value in determining a case of diphtheria.

In regard to immunizing people by injection of antitoxin: It seems to me that this would be a very doubtful proceeding, and I believe it should be done very cautiously, if at all. I would be unwilling to inject horse serum and carbolic acid into my own system, or have my child subjected to such treatment until after I had known more of its immunizing effects in hospitals for a year or two, or perhaps longer. I think, in view of the fact that the diphtheria we are having here is a mild type, we should resort to the older-tried methods, as isolation and disinfection of the house. This will enable us to do away with the immunizing process to a great extent. Immunizing might be indicated if two children had been sleeping together, and one of them took diphtheria, and the other being exposed to the infection. So far as the effect of immunization is concerned, the time it lasts—two to four weeks—is too short. I have seen, over and over again, diphtheria in the same house, after the ordinary methods of disinfection, within six months and as late as eighteen months after the initial case had occurred. Whether the disease arose from the infection of the house eighteen months before is a question that could not be determined. We have seen water pipes, closets, etc., torn up after a case of diphtheria had occurred in the house, yet the disease recurred notwithstanding this fact. So that, when we come to trust to the bacteriologist for all our knowledge on this subject, we should go slowly. The bacteriologist may have his day, but that day has not come yet.

DR. T. C. EVANS: I was impressed with one thing Dr. Irwin said, i. e., the length of time diphtheria infection may remain in a house. I have now a case of diphtheria in the same house where I had one two years ago. Prior to the case occurring two years ago, there had been no diphtheria in the house for about two years. I think that the infection has remained in the house during these four years.

As regards immunization: If an injection of antitoxin will render a child immune for thirty days, certainly we have gotten some benefit, and probably more than would result from the ordinary methods of disinfection. In the case reported by Dr. Cheatham, in which they failed to find the Klebs-Loeffler bacillus, the antiseptic used was probably sufficient to destroy the action of the bacilli in the culture tube.

There is one pathognomonic symptom, and that is the paralysis following diphtheria. I do not think paralysis occurs after any other

throat lesion. I do not agree with Dr. Irwin that it is always possible to make the diagnosis clinically. There has been an epidemic of what was called follicular tonsillitis in the southeastern portion of this city, the doctors there having diagnosed and treated the cases as simple follicular tonsillitis. I know of three or four cases of paralysis following these cases, and I am convinced that the cases followed by paralysis were all diphtheria. It is stated by some authorities that paralysis may follow a simple tonsillitis. I am not inclined to believe this.

DR. P. F. BARBOUR: The agitation of the immunization question in Louisville by the Women's Club will have a tendency to awaken the people to a realization of the danger not only of diphtheria, but also of other infectious diseases. I saw a case of scarlet fever not long ago, and a neighbor came in, bringing her child, eight or ten months old, who had never had the disease. When I told her of the danger, she said: "I am not afraid of scarlet fever." I do not think the majority of the lower classes about this city, and the same is probably true of other cities, have any idea of the danger of infection in these diseases. Since the Women's Club has taken the matter up, we may be able to get a resolution passed through the City Council looking toward the isolation of cases, placarding houses, etc.

It seems to me that the question of immunizing our children against diphtheria, and the treatment of diphtheria, are two separate and distinct things. There is no doubt in my mind that the proper treatment of a case of diphtheria during the first two or three days is to use antitoxic serum; the whole trend of investigation goes to show that where cases are recognized early, that antitoxin is almost a specific.

We do not know as yet what permanent effects serum injections produce upon the system, and it would be better to watch these cases for some months or years to decide as to the harmlessness of the serum therapy. In true diphtheria we can afford to run some risk on account of the imminent danger of the disease, and I would unhesitatingly use the antitoxin, but I would object to the unnecessary employment of an agent that we are as yet experimenting with. In a family we can watch the other children closely enough to inject serum at the first symptoms of diphtheria, and in such instances the antitoxin will be curative in perhaps 99 per cent of cases.

DR. WM. CHEATHAM: In closing the discussion, said that he had not lost faith in bacteriology, but brought up the subject for the special purpose of calling attention of physicians to the importance

of isolation in these cases, although the bacteriologist may not always find the bacillus of diphtheria. Another reason was to show that the administration of antitoxin did not produce albumin in the urine, and to call attention to the fact that the time of immunization had been increased. If a case of diphtheria occurs in the family where there are several children, and we cannot isolate them, it is well to use antitoxin for the purpose of immunization. The diagnosis is not always easily made from the clinical symptoms; several cases have been reported where, from all clinical symptoms, they seemed to be follicular tonsillitis, but in the light of bacteriological examination they were proven to be true diphtheria.

The remarks made by Dr. Irwin rather surprise me. If we were to follow him in bacteriology we would go back about fifty years. He says the only effect antitoxin has is to assist in getting rid of the membrane. I think it is very important to get rid of the membrane; certainly if we do this we also get rid of the bacilli. Contrary to Dr. Irwin's remarks, I have seen a temperature of 104 F. reduced in twelve hours to normal under the use of antitoxin. In almost every case antitoxin has the effect of bringing down both the pulse and temperature in addition to its influence in ridding the throat of membrane. I was surprised also to hear him say that he would inject antitoxin in the case of his neighbor's child, but would not in his own. My practice has always been to use nothing on my neighbor's child that I would not use on my own.

The First Anatomical Theater was erected in 1549. Lab-
rizzio built it in Aquapend, Padua, at his own expense, and we are told that in order to properly pursue the dissections it was necessary to employ torches as artificial light, owing to the height and darkness of the building.—*Meyer Brothers Druggist*, 1895, xvi, 493.

Knives should never be placed in carbolic lotion, for even a diluted solution of the acid quickly impairs their edges.



TUBERCULOUS DISEASE OF THE SHOULDER JOINT.

THE CRAIG COLONY FOR EPILEPTICS.

BY FREDERICK PETERSON, M. D.

Attending Neurologist to the City Hospital, Blackwell's Island ; Chief of Clinic,
Nervous Department, Vanderbilt Clinic, College of Physicians and
Surgeons, New York ; President of the Board of
Managers of Craig Colony.

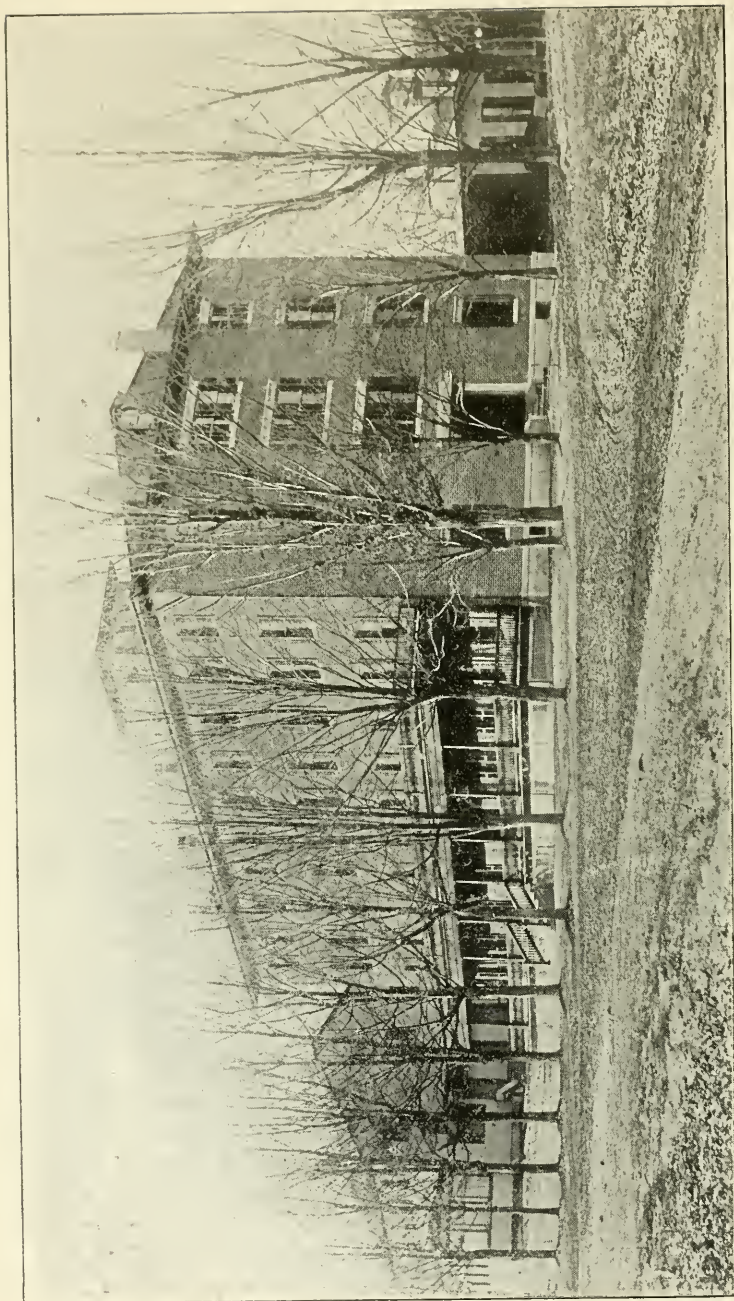
A KNOWLEDGE of the peculiar needs of epileptics, gained by me during several years' experience in one of our large asylums for the insane, and a subsequent visit to the great colony for epileptics in Germany (Bielefeld), which I described in the *New York Medical Record* in the spring of 1887, led me to seek to establish in this country a colony of this kind which should rival, if not surpass, its foreign prototype. To this end legislation was begun and carried on successfully until 1892, when the New York Legislature passed a bill empowering the Governor to appoint a Commission to select a site in New York State for a colony for epileptics ; further legislation was required for its purchase and preparation for its benevolent purpose. It is now open, and the first patients have been received there.

THE SITUATION OF CRAIG COLONY.

Craig Colony, named for the late Oscar Craig of Rochester, formerly President of the State Board of Charities, consists of nearly 1,900 acres of land in the Genesee Valley. It is reached by two trunk lines of railways (the Erie and the Delaware & Lackawanna), and from roads centering at Rochester by the Western New York and Pennsylvania Railroad. The colony has its own post-office and railway station, known as Sonyea, an Indian word, signifying sunny place. The land is extremely fertile and beautifully diversified with fields, woodlands, meadows and glens. The farms, gardens and orchards are already in a high state of cultivation, and will yield this year an income of \$12,000 to \$15,000. It had already been a colony for fifty years, having belonged to a body of Shakers, who had built thirty to forty substantial buildings upon the tract for residences, shops and the like. The Shakers, having dwindled in numbers, disposed of the property to the State at less than half of its value ; many of the buildings have been put into perfect order for their new purposes, and systems of electric lighting, water supply, sewerage and heating introduced. The illustrations presented show some of the buildings which are now in use.

THE PLAN OF THE COLONY.

The law establishing the colony required that it should be



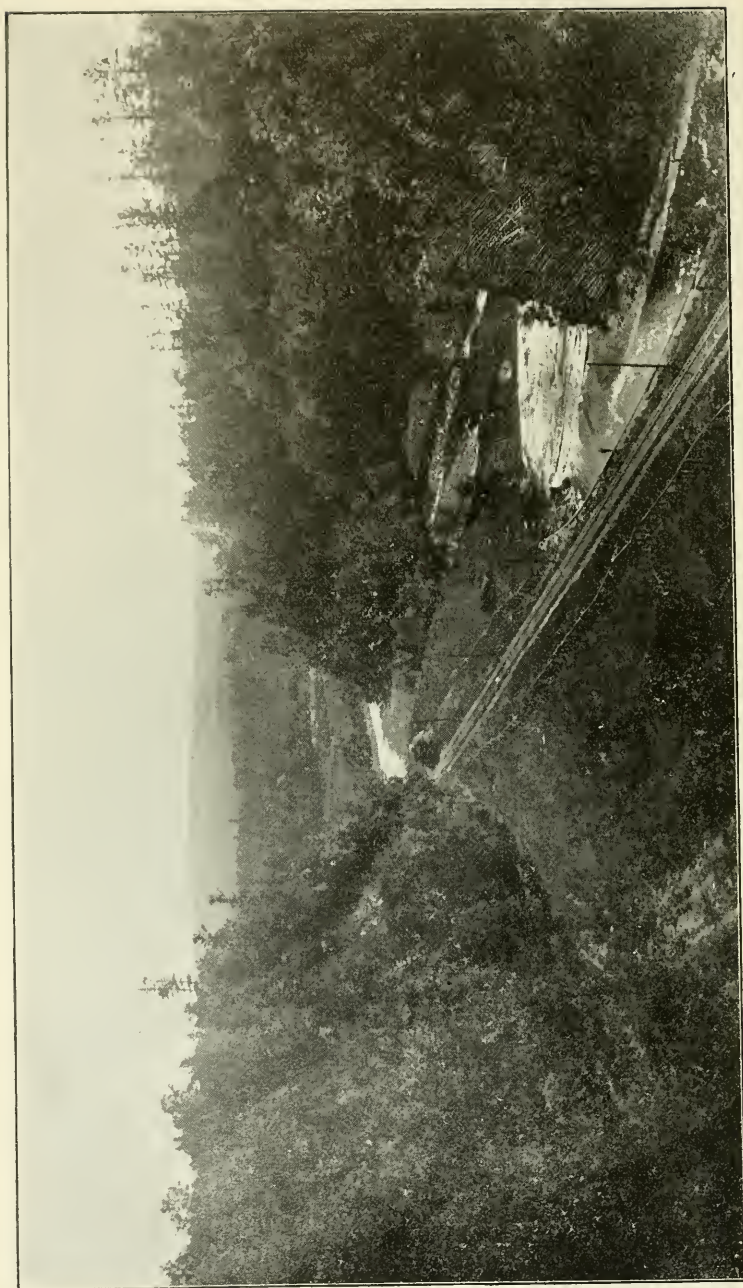
SOME OF THE BUILDINGS OF CRAIG COLONY NOW OCCUPIED BY PATIENTS.

arranged on the village plan. To this end the services of Frederick Law Olmsted, the landscape architect, were secured by the Board of Managers, and he has prepared the scheme of an industrial and agricultural village upon the best principles. There are already many buildings upon the grounds (some thirty or forty), which are to be immediately utilized. Craig Colony will not resemble an institution in any particular, but will look more like a country town than anything else. As the patients are received, they will be set to work or at study in various ways. They will take care of the farms, gardens, and orchards; they will plan and build new houses. There will be among them tailors, shoemakers, printers, bookbinders, masons, ironworkers, carpenters, painters, and so on. In fact, every sort of employment, every sort of recreation, everything in short that goes to make up the life of a country village will be found in this colony, the only difference being that the citizens of this community will be epileptics.

NEED FOR PROVISION OF THIS KIND.

Epilepsy is a peculiar disease, characterized by loss of consciousness and a convulsion. The fit or epileptic seizure occurs from time to time, and may last from a few seconds to a few minutes, sometimes longer. Some patients have fits every day or oftener some once a week, some once a month, some only once or twice a year. It is only during the fits that they are incapacitated. At other times they are well and strong and healthy looking, and quite as able to work and study as are other people. But the fact that they have these fits, no matter how rarely, debars them from many of the privileges enjoyed by their more fortunate brethren. They will not, on that account, be received into the public schools and can receive no education. They cannot attend church or social gatherings. They are shunned by their playmates, and they become burdensome to their families. When they grow to adult life no one wishes to employ them, so, although they are able to learn a trade or profession, the shops and colleges are closed against them. No general hospital receives them as patients, and, in fact, there is no place at all which is open to them except an almshouse or an insane asylum, and as the insane asylum is better than the almshouse, many patients are sent there in preference to a poor-house.

According to the latest statistics there are now in the State of New York over 800 epileptics ready to enter the colony as soon as they can be accommodated.



VIEW OF GORGE WHICH DIVIDES CRAIG COLONY INTO TWO PARTS—ONE FOR MALES AND ONE FOR FEMALES.

THE OBJECTS OF THE COLONY.

In accordance with what has already been stated, we may summarize the purposes of such provision for epileptics as follows :

First.—To give them schools where they may be educated as other children and young people are.

Second.—To afford them industrial training in any sort of occupation they may desire to follow.

Third.—To provide those epileptics a home to whom all other doors are closed.

Fourth.—To treat every case of epilepsy according to the best known scientific methods.

THE ECONOMY OF THE SCHEME.

The resources of the land are such that almost everything in the way of food for the inhabitants of this unique village can be raised by themselves, and their surplus agricultural and manufacturing products, judiciously managed, can make the colony practically self-supporting. Thus the large number of patients already upon public support in this State are to be no longer a burden to the taxpayers.

RESTRICTIONS AS TO THE KIND OF CASES RECEIVED.

There will be no restriction as to the age of patients admitted, and the only restriction practically applies to the mental condition. Insane epileptics, or epileptics subject to insane outbreaks, cannot be taken into the colony.

STATE PATIENTS.

The patients taken from the almshouses and asylums will be known as State patients, and they will be provided for before any private patients can be received. They will be sent to the colony by the poor authorities of each county according to a form required by law, the blanks for which will be furnished on application to the State Board of Charities or the superintendent of the colony.

PRIVATE PATIENTS.

As soon as all epileptics now upon public charge eligible for admission to the colony are provided for, private patients will be received at prices to be regulated by the Board of Managers, according to the kind and extent of care and attention required. Such patients may, if it be desired, erect cottages for their own use upon the grounds, upon application to the Board of Managers.

THE STUDY OF EPILEPSY.

Not the least important among the purposes of the Board of Managers is the idea of making the colony the seat of clinico-pathological investigations of a high order. To this end a pathologist is to be appointed whose sole object it will be to discover, if possible, the causes of this widely prevalent and almost irremediable disease, in order that one day a cure may be found for the majority of patients affected with epilepsy, in the place of the less than six per cent of cases that nowadays yield to treatment.

DONATIONS TO THE COLONY.

The law permits the Board of Managers to take and hold in trust for the State any grant of land, gift or bequest of money, or any donation to be applied, principal or income, or both, to the maintenance and education of epileptics and the general uses of the colony. Charitably disposed people have here an opportunity for the beneficent use of money, and it is hoped that memorial buildings in the way of chapel, library, museum, gymnasium, school, shop, or cottages, bearing the donors' names, may in time be erected.

OFFICERS OF CRAIG COLONY.

The State Board of Charities has jurisdiction over this colony. The Board of Managers consists of Dr. Frederick Peterson, President, 60 West Fiftieth Street, New York; Mrs. Charles F. Wadsworth, Geneseo, N. Y.; H. E. Brown, Mount Morris, N. Y., Secretary; W. H. Cuddeback, Buffalo, N. Y.; Charles E. Jones, M. D., Albany, N. Y.; L. S. Oatman, Buffalo, N. Y.; Judge O. P. Hurd, Watkins, N. Y.; Jeanette B. Hawkins, Malone, N. Y., and Mrs. Salmon, Syracuse, N. Y. The Medical Superintendent is Dr. William P. Spratling; Assistant Physician, Dr. L. Pierce Clark; and Matron Miss Elizabeth Holt, a graduate of the New York Hospital Training School for Nurses.

The Superintendent may be addressed at Craig Colony, Sonyea, N. Y.

Child Suicide in Paris.—In Paris of late there have been several suicides of children. The youngest of these was only nine years of age. The child had been missing for a week when his body was found in the Seine. On it was a paper on which was written, "My name is Alfred Fournot. I am killing myself. My father has scolded me."—*Ann. Hyg.*, 1896, xi, 43.

SULFONAL IN ENURESIS.

By J. MADISON TAYLOR, M. D.
Philadelphia.

CONTINUED studies of enuresis lead me to believe more strongly that the essential factor is an instability of nervous equilibrium, and the instrumental cause may be one of many reflex irritants. Wetting the bed at night never occurs in an entirely healthy child. The act of unconscious urination probably always takes place during partial or shallow sleep. The most successful single agent in my hands is sulfonal, taken at night in a large dose (6 to 10 grains), and it may be during the day, in smaller doses, as well (2 to 4 grains, two or three times a day). My recent results have been most encouraging.

Practical Notes.

A New Healing Serum.—Dr. Marmorek, a young physician of Vienna, after four years of bacteriological research, has succeeded in cultivating a healing serum that is not only efficacious in the cure of erysipelas, but is equally so in infectious connective-tissue inflammations, infectious bronchitis, and even in puerperal fever. The serum is a product of the streptococcus, cultivated along the same lines as the antitoxin for diphtheria. The investigations have been made in the Pasteur Institute in Paris, and have been observed with great satisfaction by some of the leading physicians of that city. Dr. Marmorek is quite satisfied with the results of the injection of this serum, but believes they are more particularly promising in post-mortem wounds and those infectious punctures so often received in surgical operations. This serum, in the hands of Dr. Chaumemesse, gives, for erysipelas, a mortality of 2.59 per cent, based upon 500 cases, as against 3.79 per cent for 554 patients treated by the most approved methods without serum injections. The general condition improves some hours after the operation; nervous manifestations, and especially the delirium, are very favorably influenced.—*Med. Rev.*, 1896, *xlix*, 92.

Burns in Children.—The following is the plan of treatment followed at the London Hospital: The child is wrapped in a blanket without being undressed, the blanket being secured around the neck and chest with safety-pins. The bed is moved before a fire, hot-water tins placed in it, and a screen placed behind it to protect from draughts and to reflect the heat upon it. To minimize shock

from pain, *opium* is given at once, from 4 to 5 minims (0.26 to 0.32 gramme) of the tincture for a child of 2 or 3 years old, with about 2 drachms (8 grammes) of *brandy*. Should the child still be crying at the end of an hour, a further dose of 3 minims (0.20 gramme) is given. When the patient awakes the screen is drawn close, one burned part after another rapidly exposed and dressed with *zinc ointment* and *cotton-wool*, and the blanket once more wrapped around the body. The dressings are changed in four days, when suppuration commences, preparation for which has been made in the meantime by giving *tincture of opium*, in doses of 2 or 3 minims (0.14 or 0.20 gramme) every fourth hour, to induce sleep and prevent restlessness and friction, overdose being guarded against by never waking the child to give it its medicine. Thirty minims (2 grammes) of *brandy* are given every hour, with as much food as circumstances will allow after the first morning. When suppuration has set in, daily dressings, plenteous food, and *brandy* are relied on, with *opium* if there is much pain or restlessness. Diarrhea is combatted from its very inception with *bismuth carbonate*, 10 grains (0.65 gramme); *ipecacuanha wine*, 3 minims (0.20 gramme); *tincture of opium*, 3 minims (0.20 gramme); *mucilage* and *dill-water*, 2 drachms (8 grammes) every fourth hour. Aperients are never given for constipation, but enemata, as in measles.—HARRY FENWICK and H. L. BARNARD, *British Medical Journal*,—*Univ. M. J.*, 1896, x, 27.

A Treatment of Whooping Cough.—Joire of Lille (*Lyon Med. No. 24, 1895*) obtains good results in whooping-cough by means of a treatment which consists in giving to the child morning and evening six to ten drops of oil of fennel, which are poured on a lump of sugar, and in wrapping the patient in a sheet soaked in a warm decoction of fennel seed.

The latter is prepared by boiling for an hour as many handfuls of fennel seed as we need liters of water. The bed is then covered with a woolen blanket, and a sheet is soaked in the decoction, slightly wrung out and placed on the woolen blanket. The patient is then laid upon it and wrapped up from the neck to the feet, both in the sheet and blanket. After the lapse of an hour and a half the child is rapidly placed in a dry bed. This is repeated every day. It produces an energetic cutaneous revulsion which has an excellent effect upon the bronchial catarrh, as well as upon the spasmodic element of the whooping cough.

Thanks to this treatment, which the author has employed in a large number of cases, a cure is commonly obtained in from eight

to ten days, fifteen at the most and without complications.—*N. Y. Therapeutic Review.*

Pilocarpine as a Prophylactic in Diphtheria.—Some ten years ago the use of pilocarpine was advocated by a number of more or less enthusiastic observers as a curative agent in diphtheria. But the vaunted specific effects of this drug were not sustained by the general verdict of the profession. A Hungarian physician, Dr. Sziklai, has again taken up the jaborandi alkaloid, and on the strength of his observations recommends it in the *Wiener Medizinische Presse* as an efficient prophylactic in true diphtheria, as well as in pseudo-diphtheritic affections and croup. He urges the employment of pilocarpine, more particularly in families where one case of diphtheria has already appeared, and he evidently prefers its use to that of antitoxin. He believes that pilocarpine may actually prevent the formation of false membranes. As a safe prophylactic he advises a one per cent solution to be given in ten-drop doses three times a day. For infants less than one year old half this quantity is sufficient. Dr. Sziklai has never observed any untoward effects from pilocarpine, and believes its use in diphtheria will yet come to be regarded in the same way that quinine is looked upon in malaria.—*Med. Rec., 1896, xlix, 103.*

The Radical Cure of Hernia in Children.—Dr. Broca, of Paris, has performed the radical operation for the relief of hernia in children under fifteen years of age in 450 cases. Only one death occurred in this series of operations, and this was due to septic peritonitis. Of the total number of cases reported, 14 were umbilical hernias. The others were inguinal hernias, 41 in girls and 395 in boys. Dr. Broca urges that, whenever possible, the operation should not be performed until the infant has been weaned. But operations for strangulated hernia have been successfully done on infants a few days to several weeks old. The technique of the operation is the same as in adults. The time needed for its performance is generally only about ten minutes.—*Lyons Medical, Med. Rec., 1896, xlix, 103.*

For Eczema.—Do not wash the lesions with water, but keep the skin clean by wiping with sweet oil. The crusts should be carefully removed with an alkali or oil, and then the following ointment applied :

℞ Ung. picis
 Ung. diach.
 Ung. zinci oxidi. aa ʒ ii
 Mix. Sig. Apply externally.

Editorials.

WEAK ANKLES.

CERTAINLY in New York, and presumably in other large cities, weak ankles are one of the commonest of children's affections, and yet, unless of severe grade, they arouse little interest, and are usually, if noticed at all, put off with perfunctory treatment. The most popular remedy with the laity—and we fear that the profession is not entirely blameless—is the abomination known as the stiff-ankled or corset shoe, which is prescribed with a looseness and prodigality simply amazing, for any crippling disorder below the waist line. In the case of young children, brought for lameness, crookedness, or weakness of the lower extremities, to the public clinics, fully three-quarters, on a moderate estimate, come wearing stiff-ankled shoes, purchased on the advice of some interested friend, and without reference to the seat or nature of the difficulty. The advice invariably given by the writer, whether the trouble is in the ankle or not, is to discard them for shoes of the ordinary kind, properly selected and fitted.

Weak ankles are commonly a local expression of general lack of vigor and laxity of fibre—a stigma of physical degeneration—due frequently to the restrictions of city life, both general and local. In all cases they are the expression of a disproportion between the superincumbent weight and the resiliency of the structures upon which it impinges; the weaker side gives way and the foot rotates out, passes into the position of abduction, and the arch lies nearer the ground. In this position the weight of the body is no longer transmitted through the center of the ankle and foot, but falls to the inner side, tending to aggravate the evil and also to bring undue strain upon the internal lateral ligament of the knee, and thus to produce knock-knee. Such a foot is an imperfectly developed foot, or, as Dr. Royal Whitman characterizes it in his admirable study in the *New York Medical Journal* last November, a “weak foot.” While the tendency is toward abduction, the toes do not always point out,

for the child may instinctively "toe in" to avoid the strain of the opposite position ; so that weak ankles, tending naturally to abduction of the foot, are a common cause of "pigeon toes." This instinctive maneuver is protective in its tendency and affords a hint for treatment. If the foot is slightly inverted by raising its inner border, the line of impinging weight will fall in its normal position, near the middle of the foot. This can be done by adding a strip of leather, one-quarter of an inch thick, to the inner border of a well-fitted laced shoe. If the patient is delicate, as is usual, the general nutrition must be improved by better diet, less study and more exercise in the open air ; and, in any case, the foot must be educated and trained by appropriate local exercises. If such measures are systematically and skillfully applied before the case has become inveterate, severer measures will not be required. The stiff-ankled shoe, though no doubt a commercial success, is a clog and a hindrance to successful treatment, and should be consigned to the armamentarium of those sapient beldames of both sexes, who never know what is the matter, but invariably know what to prescribe.

HENRY LING TAYLOR, M. D., New York.

TIC DE SALAAM.

A CONVULSIVE form of disease, little known and but rarely described in this country, is the form of epilepsy known to the French writers as Tic de Salaam, a condition which is observed almost exclusively in first infancy. Text-books of pediatrics in the English language contain no reference to it, either under this name or any other. Two or three cases which have recently come under the observation of the writer prompt him to a few remarks anent this condition.

In the forms usually observed, the disease is made up of a series of rapid, oscillating movements of the head and superior part of the body (*spasmus salutans*), which occur with a rapidity varying from 10 to 30 times per minute. In some instances, during the height of the attack, the upper extremities are shot into the air, and for the moment remained fixed, while the eyeballs are rolled up, and the

face has a fixed, non-expressive appearance. Whether or not consciousness is entirely lost during this period cannot be said with certainty—first of all, because of the tender age of the patient, and secondly, because the rapid, fluctuating movements prevent the patient from answering or communicating. In marked contrast to the ordinary epileptic convulsions, whether they be of the “petit mal” or “grand mal” form, is the absence of any warning, and the rapidity with which the little sufferer regains his composure after an attack—that is, there seems to be none of the customary drowsiness, stupidity and desire to be left severely alone, as after an attack of epilepsy. Apparently is there no tendency to failure of mental development, or loss of what psychical faculties the child may have already obtained. The number of attacks which the patient may have in 24 hours varies from a dozen up to fifty or sixty, each attack lasting from one to three or four minutes. The phenomena have all the characteristics of a motor explosion or liberation of energy. Their occurrence is brusque, a rapid cessation between each twitch and an abrupt departure. The consensus of opinion of those who have seen most of this condition is, that the disease is a modification of the “haut mal,” and the treatment which seems most serviceable is the treatment applicable to that form—namely, the persistent administration of bromide of potassium, with the occasional administration for a few weeks of minute doses of opium, while at the same time persistent attention is directed to the regulation of the alimentary and emunctory functions.

JOSEPH COLLINS, M. D., New York.

Hard on the Manufacturers of Artificial Food.—At the Congress for the Protection of Children, sitting at Bordeaux, France, a resolution was adopted to the effect that artificial food should be forbidden in the case of infants under six months of age, that from six months to twelve months of age the food should be milk with a little farinaceous material or the yellow of eggs, and that from one to two years the diet should consist of milk, eggs, mashed vegetables, tapioca and a little boiled fish. The feeding bottle with india-rubber tubing was unanimously condemned.—*Meyer Brothers Druggist*, 1895, *xvi*, 519.

Society Report.

NEW YORK ACADEMY OF MEDICINE.

GENERAL MEETING, JAN. 16, 1896.

EMPYEMA.

The Bacteriology of Empyema in Children.—DR. HENRY KOPLIK said that the purulent pleurisies of childhood might be divided, according to their mode of infection, into (1) metapneumonic; (2) streptococcus empyemas; (3) tubercular infections, and (4) fetid empyemas. In fifteen cases of empyema occurring in children he had found in nine the diplococcus of pneumonia in pure culture. Where the streptococcus variety is associated with a severe septic infection, as scarlet fever, the prognosis is much more grave than in the other forms, although, of course, the tubercular empyemas almost uniformly present a bad prognosis. These tubercular empyemas were associated with very marked thickening of the pleura. The fetid empyemas should be subdivided into (1) those in which there is a streptococcus or pneumococcus infection, and (2) those in which there is a mixed infection. Those empyemas which seek to cure themselves spontaneously by perforation through a bronchus are particularly apt to be of the fetid variety. According to Gerhard, most of the pleurisies occurring in children are purulent, and it has been estimated that fully two-thirds are metapneumonic.

The Diagnosis and Peculiarities in Children.—DR. AUGUST CAILLE said that empyemas in children were usually secondary, and exposure to cold could only be looked upon as a predisposing factor in their causation. Out of 80 cases coming under his observation, 67 had been in children under five years of age. The quantity of pus was often very large—one to three pints. The physician should not rely upon the presence of peptone in the urine, or, indeed, on any sign or symptom, as indicative of empyema, except the withdrawal of pus by means of an aspirating needle. The constitutional disturbance is often very slight; thus, he had once seen a boy playing around in the street, yet his thorax was found to contain two pints of pus. One should always bear in mind the occurrence of hydrothorax as a sequela of disease of the lungs or of the kidneys. In a simple pneumonia, the child would cry readily, without giving evidence of pain; but, in pleuro-pneumonia, not only the cry, but the cough and the respiration would bear evi-

dence that they were painful. The physician was thus enabled to note the change from a simple pneumonia to a pleuro-pneumonia. On inspection, the physician would observe in pleuritic effusion a bulging of the affected side, a bulging or retraction of the intercostal spaces on inspiration, dyspnea, and, possibly, displacement of the heart. It should not be expected, however, that all these signs and symptoms would be found in every such case. Lateral curvature of the spine might be observed in old cases, and particularly where there had been a sinus for a considerable time. The fever was apt to be irregular, and, as in cold abscesses in other regions, might not be present at all. Palpation should show bulging of the intercostal spaces and absence or diminution of vocal fremitus. The fremitus might only be diminished as compared with another part of the chest, and its detection could not be accomplished unless the child were made to cry—by pinching it, if necessary. If the layer of fluid between the lung and chest wall were sufficiently thick, auscultation would indicate an obscuration of the respiratory sounds, but tubular breathing might be heard all over the area of fluid effusion, being transmitted from inflamed or compressed lung. Diminished vesicular breathing and fremitus with dullness would indicate a thickening of the pleura. If the quantity of effusion were considerable, egophony might be heard in the axillary line. Bronchophony would be audible over consolidated lung, but not over fluid. Percussion would indicate flatness, and in addition to this would convey to the finger a peculiar sensation of resistance; but very forcible percussion might reveal instead the resonance of the underlying pulmonary tissue. When there is sufficient fluid to compress the lung into the upper part of the thorax, the lower area will be flat on percussion, and the respiratory sounds will be absent, whereas in the upper portion of the chest the respiratory sounds will be augmented. The change of level of the fluid resulting from a change in the position of the patient is not very easily detected in small children. The crucial diagnostic test was the insertion of an aspirating needle, and this should be done with aseptic precautions. A serous exudate mixing in the syringe with a few drops of an antiseptic solution might assume an appearance not unlike that of pus, hence when at all in doubt as to the nature of the fluid drawn into the syringe, this should be examined with the microscope. After the withdrawal of the needle, the site of the puncture should be covered with a bit of adhesive plaster, or with a small piece of gutta-percha tissue which has been made sticky by moistening it with chloroform. If the precaution is taken not to

puncture the chest on the right side below the eighth intercostal space, there will be no danger of injuring the liver. As regards treatment, it should be remembered that, although there may be a perforation into a bronchus, the pus might not find an exit until the intra-thoracic pressure had been relieved by an incision into the chest. The re-inflation of the lung after such an opening had been made into the chest was accomplished by the mechanical effect of coughing or forced inspiration, which causes the air to be driven in the direction of least resistance, which in this case is from the sound to the diseased lung.

The Treatment of Empyema in Children.—DR. JOSEPH E. WINTERS said that the indications for treatment were, to remove the pus, prevent its re-accumulation, procure full expansion of the lung, and leave no deformity of the chest. It should be borne in mind that empyemata do not heal from the bottom, but by the expansion of the lung and the ascent of the diaphragm. It was by this expansion of the lung that the pus was expelled, and therefore any method of treatment prior to operation which would tend to reduce the intra-thoracic pressure was injurious. Rib resection in recent cases was, in his opinion, not demanded, for the object of this operation is to cause a falling in of the chest wall, and this we did not desire until the full expansion of the lung had been accomplished. The incision into the chest should be at least two inches long, and should be made from two to three inches above the base of the normal thoracic cavity. Where there was no cyanosis, it was well to use an anesthetic, and chloroform was preferable for this purpose. The patient should only be partially under the influence of the anesthetic, however, for it was desirable that the expulsion of the fluid should be aided by coughing and crying. Before making the incision an aspirating needle should be introduced into the chest, and if fluid were found the needle should be allowed to remain as a guide to the operator. It was safer for the patient and more easy to secure a thorough emptying of the pleural cavity to have the patient lying on the affected side and close to the edge of the table. After evacuation of the fluid, the speaker favored careful irrigation of the cavity with hot water, in order to remove any coagula that might be present. He also recommended that as soon as the incision had been made the child should be given a teaspoonful of whiskey, undiluted, in order not only to stimulate the child but to make it cough and cry. Convalescence could be hastened and aided by the use of chest exercises, and good results had been obtained by blowing on wind instruments.

DR. A. JACOB said, that while less was now heard of "chronic pneumonia" than formerly, it should be remembered that it was not at all uncommon in children to find a pneumonia followed by a peribronchitis, as evidenced by a persistence of fever and dullness for perhaps several weeks.

DR. B. SCHARLAU said that a perusal of his hospital records for the past five years showed that he had performed rib resection for empyema over one hundred times, and he preferred this method to simple incision, because it was more in accordance with the principles of treatment of other abscesses, and because he was convinced that convalescence was much more rapid. Moreover, in about fifty per cent of all cases of empyema there would be found coagula so large that they cannot escape through a small opening. Most of those who advocated incision only had never given rib resection a fair trial.

DR. W. P. NORTHRUP said that he considered it a most difficult diagnostic problem to decide in a child under eighteen months old whether a one-sided flatness were due to fluid or to pneumonia, unless one resorted to the use of the aspirating needle. Probably the most important physical signs were one-sided dullness and absence of vesicular breathing. In employing the aspirating needle one should be particular to select one having a very large calibre, and to insert it in at least three different places, if at first the puncture is negative. His experience had taught him that the pleural cavity will drain perfectly, no matter how the drainage opening be made, but the sixth intercostal space was a convenient location. For children under two years of age he preferred to make the incision nearly two inches in length and to insert two drainage tubes side by side.

DR. HENRY DWIGHT CHAPIN said that empyema was a disease in which many children lost their lives from the attending physician failing to recognize early enough the true nature of the trouble. This was partly due to the fact that it frequently followed a pneumonia, and partly to the fact that in proportion to the youth of these little patients did the difficulties of physical diagnosis increase. It was not common, he thought, to find bulging of the affected side in children, unless there was a large quantity of fluid, for the reason that the pressure was exerted chiefly in the direction of the least resistance, which was on the lungs and not on the wall of the thorax. It was also usual to hear bronchial respiration all over the area of fluid. He agreed with the last speaker as to the necessity of resorting to exploratory puncture for differential diagnosis, and also re-

garding the use of a large aspirating needle. If the signs of a pneumonia persisted, or if in the course of a pneumonia we observed an area of dullness beginning at the apex, there was good reason for believing that this was due to effusion. He had employed resection of a rib in several cases, but had found, as others had done, that this operation was sometimes followed by a persistent sinus. As he had obtained very satisfactory results from simple incision he could not see the advantage of exsecting a rib, provided, of course, the incision were made ample enough to allow of the free escape of large coagula.

The PRESIDENT said that his experience had convinced him that the patients usually made a more rapid recovery after a portion of a rib had been resected than where only an incision was made into the chest wall.

DR. FLOYD M. CRANDALL remarked that this discussion had served to emphasize the frequency with which empyema in children followed pneumonia, and also that these purulent pleurisies were almost always secondary. He fully agreed with those who had previously spoken as to the difficulties of diagnosis, and thought it behooved us all to be charitable to those brother physicians who chanced to make such mistakes in diagnosis.

DR. CAILLE, in closing, said that irrigation of the pleural cavity was to be condemned, because it caused a breaking up of the adhesions between the lung and the chest wall. It had been very generally discarded, except in bad septic cases.

DR. WINTERS, in closing the discussion, said that he was decidedly opposed to exsection of a rib in children, not only because it was an unnecessary procedure in recent cases, but because in children under two years the mortality from this operation was 80 per cent, whereas the mortality following simple incision in children of the same age was only 25 per cent. During the past summer he had made personal inquiry regarding the practice in the European hospitals in this respect, and he had found that this operation had been for the most part given up. In his opinion the difficulties of diagnosis in cases of empyema occurring in young children had been rather exaggerated in this discussion. The sensation of resistance imparted to the finger during percussion was very characteristic, and if the examiner were careful to make the child take deep inspirations while auscultation was being practiced, a sound would be heard in cases of fluid effusion which was totally different from that produced by consolidation of the lung.

Abstracts.

BEHRING'S DIPHTHERIA SERUM.

F. J. B. CORDEIRO (*Report of Surgeon General, U. S. Navy 1895—Sanitarian, 1896, xxxvi, 29*) says that diphtheria is generally accepted to-day as being of bacterial origin. One set of bacteriologists insist that the Löffler bacillus is the sole and only cause; another set that the streptococci, staphylococci, and micrococci that are so often observed stand also in the causative relation. Chaillou and Martin found in 64 cases that presented the typical clinical picture of diphtheria the following:

	Cases.	Deaths.	Mortality.
			Per Cent.
Löffler bacillus.....	33	26	78
Löffler bacillus and staphylococci.....	5	3	60
Small cocci.....	10	4	40
Streptococci.....	16	12	75

Löffler bacillus in 60 per cent of the cases. In another set of 99 cases of angina, with diphtheritic deposit, the same authors found the Löffler bacillus 71 times = 70 per cent.

Baginsky found in 93 cases of diphtheria the Löffler bacillus 68 times = 73 per cent. In another set of 154 cases given by Baginsky the bacillus was present in 118 = 76 per cent.

It is probable that on an average in about 70 per cent of the cases of clinical diphtheria will the Löffler bacillus be found. This has led to the following bacteriological distinction: those cases in which the Löffler bacillus is found are spoken of as genuine diphtheria; those cases in which this bacillus is not found are called diphtheroid. Clinically there is no distinction, and confusion may easily result, and has already resulted, in comparing the statistics of a former period, when no such distinction was made, with those of the present time. Escherich says: "Starting from the fact known to Bretonneau, that we can produce fibrinous membranes in the tracheas of rabbits by making them breathe ammonia fumes, one was led to believe that a very severe inflammatory process could be caused by atmospherical influences. For the majority of cases, however, we must fall back on bacteria as the originators of the disease, and bacteriological investigations have shown that besides the Löffler

bacillus there are others that by their growth in the mucous membrane can produce membranous inflammation. In fact, Martin has described cases of croup both primarily laryngeal as well as secondarily, in which the Löffler bacillus during the whole sickness could not be found, but instead a small coccus."

Concetti says: "Besides the genuine diphtheria produced by the Löffler bacillus there are other forms which present the same clinical and pathologico-anatomical picture as well as gland swellings, albuminuria, and paralyses. The conception of diphtheria cannot, therefore, be a simple one, but numerous different factors must be accepted as going to make up the pathologico-anatomical picture.

"Streptococci alone can produce this result. They are associated often with the Löffler bacillus and other micro-organisms, and working together present a terrible picture with the character of septicemia."

Diphtheria in men can be transferred to animals by scarifying and then rubbing in pieces of diphtheritic membrane. The micro-organisms take root and form a kind of fibrinous exudation which never leads to the death of the animals by suffocation. The poisons generated by the bacteria are soon absorbed and eventually lead to the death of the animal from paralysis, sepsis, etc.

If a pure culture of Löffler's bacilli alone is used, that part of the story which belongs to this peculiar bacillus is carried out. Thin fibrinous exudates are formed and death by poisoning results in due time.

If the pure toxin of the Löffler bacillus is used, which is obtained by filtering a two-days-old alkaline bouillon culture, no fibrinous inflammation follows, but the animal dies simply with symptoms of poisoning—paralysis, parenchymatous inflammation, etc. It is with such toxin that horses are immunized with a view to procuring a serum. The strength of the toxin is tested on guinea pigs; 0.02 cc. of a strong toxin will kill a 500-gram guinea-pig in about forty-eight hours. It may be necessary to begin the immunizing process with doses of 0.001 cc., which is gradually worked up to 100 cc.

The Testing of the Serum is done in the following way: Five guinea pigs of about medium weight are injected with the following quantities of the serum: No. 1 with 0.2 cc., No. 2 with 0.1 cc., No. 3 with 0.08 cc., No. 4 with 0.06 cc., No. 5, the control animal, is not injected at all. A short time afterward, six to twenty-four hours, they are all given 0.02 cc. of toxin subcutaneously, a dose which previous experiment has shown will kill a guinea pig of medium

weight in about forty-eight hours. The following results then are noted: No. 5 dies in two days; No. 3 and No. 4 die a little later; No. 2 becomes sick, but survives; No. 1 is only slightly sick. 0.1 cc. of the serum, therefore, overcomes 0.02 of the poison, and a measure of its strength is thus furnished. Much more would be required to save the animal if the antitoxin were given after the toxin. Kitasato and Behring, in the case of tetanus, found that this increased in an extremely rapid proportion to the time. The unit of serum strength is taken always from an immunizing dose—*i.e.*, the strength is measured as above by giving the serum first and the toxin afterward. Ehrlich and Behring found that for tetanus ten times a minimum killing dose required ten times the immunizing dose of serum. I can find no record of such experiments with regard to diphtheria, and therefore suppose it has been assumed from the tetanus experiments. I cannot find any extended experiments, either, in the case where the poisonous dose is relatively large. It is possible that it may be found that a simple proportional law does not hold in such cases. For instance, if 0.1 cc. of the serum can antagonize 0.02 cc. of the toxin, it may not follow that 10 cc. can antagonize 2 cc. of the toxin, and the proportion may change again vastly when we attempt to antagonize the toxin after it has been given first. When we read on the label, therefore, of the Hochst serum, 600, 1,000, 1,500 immunizing units, we must not attach to such figures the same significance as when reading of a current of so many amperes, because our guinea pigs are very uncertain metres, and the proportional law of which we have spoken above may not be true.

The Influence of the Serum on the Membrane.—It is rather odd, but the serum of the highly immunized animals is a good culture medium for the Löffler bacilli, and the mucous membranes of such animals will allow colonies of the bacilli to grow as readily as those of the unimmunized. The only published experiment that I can find on the influence of the serum on artificially formed membranes are a few by Roux and Martin, who inoculated the mucous membranes of guinea pigs with a pure culture of Löffler bacilli and at the same time gave them a subcutaneous dose of antitoxin. The bacilli grew and fibrous membranes were formed, but no toxic symptoms were observed. This is of great importance clinically. In animal experiments the serum may preserve a life, because even though the membrane building goes on an animal never suffocates, while in a human being the danger of suffocation from an extension of the membranes is always at hand, and from the above it

would seem that the serum has no effect on the membrane building. Let us see what facts we can collect clinically on this point :

Von Roncke (Munich) reports in a fatal case that "25 cc. of antitoxin in four doses after twenty-two days still left traces of the diphtheritic process."

Again, Von Roncke saw partial loosening of the membranes after several days, but remarked the formation of fresh membranes in spite of preceding injections of serum.

Godfrey, Saw, Walker and Bokai say that the membranes vanished rapidly under the serum treatment, but the cases they report are few.

Voswinkel says that he could see nothing of an earlier loosening of the membranes.

Körte, in most of his cases, saw no influence on the local process.

Hilbert saw no difference from the serum treatment.

Gallotti observed the separation of the membranes exactly as formerly.

Bender (Berlin) could see no sign of a specific healing influence on the membranes.

The following observers report a large number of cases where the local process increased or renewed itself in spite of serum injections: Rumpff, Sigel, Mendel and Katz, Weibgen, Kassowitz.

Gnädinger reports a case where, after having separated, the membrane renewed itself, and another where, in spite of the injections, the membranes kept spreading.

From the cases which I have observed I cannot notice any perceptible difference in the behavior of the membranes after the serum treatment. As before, in some cases they separate more or less slowly, in others remain stationary, and still in others grow worse.

The claim is made by Behring and his co-workers that the serum stops the spread of the membranes. The burden of proof lies with them then, and one case to the contrary carries more weight against this assertion than a dozen favorable cases.

The fact remains then that, in spite of the serum treatment, a large number of deaths are due to suffocation. It may be or it may not be that the toxin is to a certain extent combatted by the serum, but a far more potent poison than any toxin is here at work—namely, carbonic dioxide. The strongest dose of the strongest toxin will only kill a guinea pig after many hours, while a minute or two suffices after its larynx is plugged to suffocate it. In a human being, and especially in a child, the calibre of the larynx and trachea is but very little more than the necessary minimum for the free supply of

oxygen. Let this calibre be ever so little encroached upon and a struggle immediately ensues which cannot last long without exhausting, on the one hand, from the increased muscular effort called forth in breathing, and, on the other, from the gradual piling up of carbonic acid and other impurities.

Let us next consider from what we have learned of the serum from our animal experiments what we may reasonably expect of it when we transfer our experiments to human beings stricken with diphtheria in its clinical sense. Let us suppose a hundred cases of average diphtheria and consider what we may expect to work in these hundred cases with our serum. In the average, as about 70 per cent of all clinical cases show on examination Löffler's bacillus, we may consider that in 70 of these cases the bacillus is found and in 30 is absent. Only 70 cases, therefore, are available for our serum experiments. Let us suppose that the cases are treated by ordinary methods. The cases are of average severity, and we have a mortality of, say, 30 per cent. Of the 30 dead only 21 show the Löffler bacillus. From our previous tables we have seen that the deaths which can be ascribed to the toxin of the Löffler bacillus vary from one-thirteenth to one-sixth of the whole. To make the case as favorable as possible, let us take the greater fraction, one-sixth. Of the 21 fatal cases which concern us, about 3, say, could have been saved by the antitoxin. The antitoxin treatment, then, would have shown a mortality of 27 per cent instead of 30 per cent. That is supposing that our 1,000 or 1,500 immunizing units really could resist not merely 0.02 cc. of toxin, as in our animal experiments, but possibly 20 grams. A grave doubt exists whether or not the antitoxin when injected into the human being really antagonizes in part or at all the working of the toxin. These doubts are founded on the frequency with which post-diphtheritic paralyses are met after the use of the serum; so frequent, in fact, that Escherich, an advocate of the serum treatment, says that these paralyses occur oftener after its use than before. Here is a symptom considered on all sides as peculiarly due to the toxin of the Löffler bacillus, which, if the serum were an antitoxin in its real sense, it should be able to combat, but over which it is powerless. With a possible, not probable, betterment of 3 per cent from *à priori* considerations, let us see how this agrees with Behring's statement.

Behring said publicly in Vienna: "We now have it in hand to lower the mortality from diphtheria to a tenth of what it is at present, and by combining serum therapy with vaccination to save to their families and to the State countless lives."

Immunization.—Let us consider next the immunizing properties of the serum. We have here to deal with observations of such a character that one positive result outweighs a hundred negative. For instance, suppose that 100 persons are injected after having come into more or less close contact with diphtheria, and that none of them come down with the disease. This is a negative result. There is no way of determining whether or not such a result would not have happened without the serum. In fact we know from experience that contact with the most contagious diseases often does not reproduce them. But suppose that after carefully protecting a person with 1,000 or more immunization units, after every precaution has been taken, the individual comes down with diphtheria, in such a case we have more food for reflection than in the hundred cases mentioned above. Suppose we could cite one or two cases like the latter in regard to vaccination for small-pox, how long would such vaccination continue to be practised?

But for the antitoxin we can cite hundreds of cases where, in spite of serum, no immunization has been perceptible for an hour, or a day or a week, according to the various limits set by its upholders. Such cases have been reported by Sonnenburg, Strahlmann, Hager, Bokai, Schüler, Hilbert, and others. In the great discussion before the Berlin Medical Society Hanseemann gave a whole list of such cases which had been reported to him by practising physicians. Perl (of Serett, Bukowina) reports that, out of 67 people who were immunized, 13 shortly after came down with diphtheria and 2 died. Then follows a list of diphtheria relapses—cases which have been treated with serum and seem to have recovered, when suddenly the membranes form again. Kossel, Wolff-Lewin (Berlin), Goebel (Hamburg), Gnädinger, and Widerhofer (Wien) have reported such cases. Wolff-Lewin's case was immunized with 600 units of Behring's serum, but a few weeks later took diphtheria, for which large doses of serum were again given, and after recovering took diphtheria again only twelve days later. Widerhofer's case was that of a child that had been treated with serum, relapsed, was treated a second time with serum, and notwithstanding died. Löffler bacillus was demonstrated in all these cases. In view of the above, it is difficult to see where the immunizing property of the serum comes in. Kossel has attempted to explain away these fatal objections, but to the mind trained only to the logic of mathematics and natural science and not deeply versed in metaphysics his reasoning is unintelligible.

Statistics.—We now come to the statistics of the subject,

where, as usual, figures are made to prove whatever the writer desires. We may preface the discussion of this subject by stating what is well known to every physician that diphtheria at different times and places is an extremely variable disease in regard to its severity. Its mortality varies from 10 per cent (or even less) to 80 per cent. It is extremely fatal to younger life, chiefly from mechanical reasons, while among older children and adults it is comparatively harmless.

We find the following figures for the serum treatment :

	MORTALITY.	Per cent.
Baginsky gives.....		13
Bokai.....		14
Washburn.....		14
Constantini.....		22
Kossel.....		23
Widerhofer		24
Roux, Martin, Chaillou.....		26
Körte :		
First series.....		30
Second series.....		36
Gnändinger.....		40

We have here a range of from 13 to 40 per cent. Such results were often met with long before the antitoxin treatment came in ; there is nothing at all extraordinary in these figures ; they do not speak for the serum as a specific.

At Friedrichshain (Hahn) we have the following figures :

	MORTALITY.	Per cent.
1888.....		32
1889.....		34
1891, 1892, 1893.....		38
1894, February to November (serum period).....		33

These figures are too varied and contain too many different factors to make a further consideration of them of any value. Some of them apply only to diphtheria in a bacteriological point of view—*i. e.*, only those cases where Löffler's bacillus was found are classified. The individual cases themselves vary much in severity. In a series where the light cases form a large proportion of the total cases the mortality must be very low, and that such is probably the fact in regard to some of the figures given above we shall see from what follows. Again, the character of the diphtheria endemic in Berlin,

where most of these figures were obtained, has during the past year and winter been admittedly comparatively mild, so that a comparison of this year's figures with those of severer years would lead to error.

Gottstein has shown statistically (and his figures have not been questioned) that, during this last year, when the antitoxin has been so extensively advertised in the papers and the public attention so constantly fixed upon it, the number of cases of diphtheria received in the Berlin hospitals has been almost double that of former years. For instance, for the months of October and November of 1894 there were received 712 cases, while in the corresponding months in 1890 and 1891 there were received, respectively, 328 and 320 cases. There died during these months, however, in 1894 in the Berlin hospitals 131, while during these months in 1891 the deaths were about the same, and in 1890 only 124.

During the year 1894, then (the serum period), while admittedly the character of the endemic was comparatively mild, the number of cases of diphtheria received in the hospitals has been doubled. If this is a fact (and Gottstein's statements have not been denied) the reasons are twofold. First, the advertisement of the serum has led almost every case of sore throat to apply at once for treatment, particularly as one point has been continually harped upon—namely, the necessity for treatment at the very beginning; secondly, as every case of angina, many of them very light, has been systematically examined for the Löffler bacillus, and this has been found often in the lightest as in the severest cases, many cases have been treated with the serum that in other times, when the diagnosis was made clinically, would never have been heard of.

These many different and disturbing factors render the published statistics of the serum treatment untrustworthy. The combination of figures, also, from different hospitals—as in the case of Roux's and Kossel's figures—only increased the confusion.

We have, however, a criterion to appeal to which possesses none of the foregoing objections—the mortality statistics for diphtheria. I shall consider here the mortality tables for Berlin, because the serum originated there, was first tried there, and has been in extensive use for a longer time there than in any other city. Experiments were made with the antitoxin in Berlin in the early part of 1893, and at different periods during the year in the Elizabeth-Krankenhaus, in the Charité, and in Moabit. In March of 1894 it was systematically taken up in the Kaiser und Kaiserin Friedrich Children's Hospital, and with but a single break followed out through the year. From September to the end of the year it has been in general use in

Berlin, both in hospital and in private practice. Let us see if the mortality shows any signs of dropping to one-tenth of its former figures, as Behring promised, or if it has diminished at all.

NUMBER OF DEATHS FROM DIPHTHERIA AND CROUP IN BERLIN.

1881	1,593
1882	1,913
1883	2,651
1884	2,446
1885	1,802
1886	1,535
1887	1,304
1888	1,070
1889	1,252
1890	1,549
1891	1,057
1892	1,405
1893 (serum period).....	1,643
1894 (serum period).....	1,430

The latter two years, during which the serum was introduced, do not show any remarkable diminution in the mortality. It is noticeable that during the period 1882 to 1885 a severe epidemic raged; outside of this period the mortality does not vary much. We can certainly say that for 1894 the endemic was of an average mild character, and we have no reason to believe that without the serum the mortality would have been different from what it was. The fact stands, then, that from *à priori* considerations we expected a small reduction of the mortality from diphtheria from the use of the serum, but that practically no such reduction is perceptible.

The verdict cannot yet be given that the serum is absolutely without effect upon the mortality from diphtheria, although everything points in that direction. The mortality statistics of another year at least will be needed.

In summing up, then, it will be well to bear in mind the following points which I quote bodily from Kassowitz :

"1. A large number of children treated with both small and large immunizing doses have within a few weeks acquired diphtheria, and some of them have died of it. We do not possess a single scientific proof that a case of diphtheria was ever prevented by the immunizing process.

"2. Children who during a first sickness have been treated with large doses of serum have a short time after acquired diphtheria

anew. They were not rendered immune either by their sickness or the largest doses of the antitoxin.

"3. In a large number of cases children have been treated on the first or second day of their illness with the fullest doses of the antitoxin and have died.

"4. It is certain that a large part of those who have died, notwithstanding the serum treatment, did not die from the effects of a mixed infection, but directly from the specific effects of the Löffler bacillus.

"5. Heart and other post-diphtheritic paralyses are also seen in early and fully treated cases, and they occur as often as they did before the serum treatment.

"6. Of a fever fall by crisis in the first twenty-four hours and of a pronounced antipyretic effect of the serum most observers have seen nothing or next to nothing.

"7. The separation of the membranes follows in the cases that run a favorable course in the customary manner. But often there is an extension of the local process and a renewal of the already separated membranes during and after the serum treatment."³

The burden of proof lies with Behring and his co-workers. The world will eagerly and only too willingly receive this proof. We know that the former extravagant promises are out of the question, but we should be grateful to have it demonstrated that the serum can reduce the mortality by even 1 per cent. As yet we have not the slightest basis on which to found an expectation that fewer children will die in the future of this disease on account of the serum treatment.

A SERUM CONTAINING THE DIPHTHERIA AND STREPTOCOCCUS ANTITOXINS, OBTAINED FROM ONE HORSE IMMUNIZED AGAINST BOTH INFECTIONS.

In arriving at the value of antitoxin in the treatment of diphtheria, it has become manifest that the cases which do not respond to the treatment satisfactorily are those in which there is a mixed infection; in complicated or septic diphtheria the serum has in a measure failed. The following communication of Dr. Roux to the Medical Congress of Buda-Pesth illustrates this:

"The diphtheria associated with or complicated by the presence of other bacilli, *especially the streptococci*, are among the most severe to be seen. Most frequently the disease involves the lungs, which,

at autopsy, show foci or broncho-pneumonia, wherein are found the diphtheria bacilli and the streptococci.

"The association of these two microbes produces in rabbits a diphtheria running a rapid course, as seen in very young children. The anatomico-pathological lesions are the same. In both cases there is broncho-pneumonia with abundant bronchial secretion.

"In these cases of associated diphtheria the serum but rarely cures. This is not because there is a formation of larger amounts of diphtheritic toxins, or because the antitoxic actions are hindered, but because the cells that are stricken by the poison of the streptococci no longer feel the stimulation of the antitoxin."

Dr. Roux further quotes his experience with the various cases of diphtheria treated with serum at the Children's Hospital of Paris. There he found that while in pure diphtheritic anginas (unmixed infection) the mortality was seven and a half per cent, it amounted to thirty-four per cent in children where the diphtheria bacillus was associated with streptococci. When diphtheria has invaded the larynx and tracheotomy has been resorted to, and when the diphtheria bacillus was not associated with streptococci, under the influence of the treatment the mortality was reduced from sixty-seven per cent to thirty per cent, but in the diphtheritic laryngeal cases, *in which the two bacteria were associated*, the death rate was sixty-three per cent, notwithstanding that the average injection of antitoxin during treatment amounted to 60 ccm.

European scientists have experimented in the direction of preparing a serum having antitoxic properties against both the Loeffler bacillus and the streptococcus, by immunizing the same animal against both poisons. The New York Pasteur Institute (Lehn & Fink, agents), following Marmorek's method and recognizing the importance of reaching practical results, has succeeded in producing a serum which is at the same time antitoxic against diphtheria and streptococcus infection by immunizing diphtheria antitoxin horses against the streptococcus virus. A period of one year is necessary to immunize a horse against streptococcus, an immunizing power of about 1:30,000 being reached.

The new double antitoxin is supplied in vials containing 25 ccm. and the directions are as follows:

One to 2 ccm. immunize against infection. In ordinary cases a dose of 15 ccm. is injected when the disease is suspected and before the diagnosis is absolute, and after a period of 12 hours the remaining 10 ccm. are injected. In severe cases the quantity should be 25 ccm. at first, 25 ccm. more within 24 hours, and even 100 ccm. can

be injected within a few days, the serum being wholly innocuous. The injections are given subcutaneously, preferably in the lateral part of the abdomen, after the site of injection has been carefully washed with a four per cent solution of carbolic acid or a one per cent solution of lysol.

DIAGNOSIS OF DIPHTHERIA.

THURE HELLSTRÖM (*Hygiea, Univ. M. J.*, 1896, x, 19) maintains that the clinical picture of a pharyngeal affection does not, in the majority of cases, permit of establishing a positive diagnosis, but that bacteriological examination may be relied on. Of 1881 patients admitted to the new epidemic hospital at Stockholm, from September, 1893, to August, 1895, with diphtheria or suspected diphtheria, the Loeffler bacillus was present in 1304 (69.32 per cent), while 577 (30.68 per cent) were free from it. In consequence of this the authorities omitted every measure of disinfection in the latter cases. In order to establish an absolutely certain diagnosis, Hellström made cultivations upon unmixed ox-serum—a simple and speedy method. He states that the presence of very small cocci is a good prognosis, while streptococci with diphtheria bacilli make the prognosis worse. Hellström claims to have proved that the long and slender bacilli are the real cause of true diphtheria, while the short and thick ones are of subordinate importance.

Of 664 scarlatinal patients examined, the Loeffler bacillus could be detected in only 13 (1.95 per cent). Convalescents, however, in whom the bacillus appears in later stages are dangerous, as true diphtheria contagion can be disseminated by them. Hellström never found the diphtheria bacilli to be a cause of phlegmonous angina. In the majority of cases of croup diphtheritic infection is the real cause, but cases of croup occur which are not engendered by the Loeffler bacillus, but by cocci which, though infectious, warrant a favorable prognosis. In 17 cases of scarlet fever with croup in the later stages, and in numerous cases of measles with croup, diphtheritic origin was demonstrated in all but two cases, where only cocci could be implicated. The author mentions that, out of 15 tracheotomies for scarlatinous croup, 11 died, and, in 31 tracheotomies for croup after measles, 28 died.

The presence of the Loeffler bacillus in the throat of apparently healthy persons, who become immediately affected by true diphtheria, seems to prove that they are the real originators of the disease, and the author mentions several examples in which such seemingly healthy persons spread the contagion. From a great many observa-

tions he maintains that it is not the rule that in the lighter cases the bacilli pass away more rapidly than in the severer ones, but, on the contrary, bacilli surviving a long time after uncommonly light cases have shown a permanent virulence. It is also undoubted that in the severer cases the mucous membrane of the throat sooner ceases to be a fruitful field for their growth.

HYSTERICAL ANOREXIA IN A YOUNG GIRL.

Dr. A. A. Kisel (*Meditinskoye Obozrenie*, '1895, *xliv*, 22) reports a second case of this kind, the first having occurred in a girl, eleven years old, the account of which was published in the same journal, No. 17, 1894. The subject of the present report was a girl, fourteen years of age, who was admitted to



Fig. 1.

St. Olga's Hospital for Children, in Moscow, on April 12, 1895. At that time, according to the statement of her relatives, she had taken nothing, either solid or liquid, into her mouth for twelve days. The father of the patient had had syphilis, death occurring from pulmonary tuberculosis; the mother, a nervous invalid for many years, had committed suicide during an attack of

acute mania. The child had been perfectly healthy up to the age of nine years. At that time she had an attack of paralysis of both lower and upper limbs. There was no apparent cause for the trouble, which persisted in spite of the measures instituted for three months, when it suddenly disappeared, after the child had received a fright. Three years ago she again became paralyzed, this time in the lower extremities only. The trouble lasted six weeks, and again suddenly disappeared after a moral shock. For some years the patient had had a capricious appetite; a year ago she had begun to have frequent vomiting spells after eating; for the past three



Fig. 2.

months apparently all the food ingested was vomited; and, as already stated, for the past twelve days she had taken absolutely nothing.

Upon admission into hospital, she was greatly emaciated, as shown in Fig. 1, her weight being only 18,200 gm. (40 lbs.), and this fell to 18,000 gm. in the course of the four days immediately following admission. After a long struggle, as a result of much persuasion, she was induced to take three dessertspoonfuls of milk, which she retained, although she complained bitterly of a severe pain at the pit of her stomach. It was remarked, however, that the child gave evidence of suffering only when some one of the hospital

attendants was near her bed. Little by little she was induced to increase the allowance of milk, and so much progress was made that, by the end of a week, she was eating with a good appetite and apparent relish. She was weighed again on April 23, when she was found to have gained over three pounds; and at the date of her discharge from the hospital, 57 days after the lowest point in her weight had been reached, she turned the scales at 34,700 gm. ($76\frac{1}{3}$ pounds), a gain of more than 36 pounds, or considerably over half a pound a day. Fig. 2 shows the appearance of the child at this date.

The measures employed in this case were those which experience has shown to be best adapted to the management of hysterical affections in children, namely, complete change of surroundings, separation from relatives and friends, and gentle, but firm, insistence upon literal obedience to all commands of the physician or nurse.

A BOY WITH BILATERAL PERIPHERAL NEURITIS, APPARENTLY DUE TO ADMINISTRATION OF LIQUOR ARSENICALIS.

MIDDLETON (*Glasg. M. J.*, 1896, *xlvi*, 56) reports this case: H. D., æt. 11 years, was admitted 4th June, 1895, with marked peripheral neuritis, affecting the four limbs, but not involving any other parts. Complete wrist-drop on the left, less complete on the right. Foot-drop well marked on both sides. Tenderness of calves and of balls of toes. Well marked atrophy and loss of knee-jerk. Absolutely unable to stand. No impairment of sensation.

History.—Towards the end of 1894 he had headache, general feeling of cold, followed by swelling of hands, face and feet, more marked at night, associated with scanty urine and white sediment mixed with blood. This statement of the parents must be received as doubtful, as the doctor in attendance states there never was any nephritis, nor any blood in the urine. There was also sickness and vomiting, especially after food, and a pain shooting from the small of the back round both sides of the trunk.

In December he had an attack of pemphigus, treated by arsenic, and on the 19th January, 1895, he entered an infirmary. He was treated there by Fowler's solution in gradually increasing doses, so that on 27th February a maximum of 22 minims three times a day was reached. The paralytic symptoms, according to the patient and his mother, were fully developed before he was taken home on 3d April. Has always been a nervous child; never had scarlet fever, measles or diphtheria.

Eye movements normal. Pupils react normally to light and accommodation. Patient has full vision. Ophthalmic vessels full, especially the veins, which are also considerably twisted. Patient is hypermetropic.

LUMBAR PUNCTURE OF THE SUBARACHNOID SPACE.

Jacoby (*N. Y. Med. Journ.*, 1895, *lxii*, 818; and 1896, *lxiii*, 6) summarizes the acquired facts, from his experience and that of others, as follows:

By means of lumbar puncture, cerebro-spinal fluid can be easily removed from the subarachnoid sac of the spinal cord and from the cavities of the brain.

Therapeutically, it is only of direct value as a palliative through the reduction of increased pressure; it may, perhaps, prove of more service indirectly as the first step to local treatment of the cord and brain.

Diagnostically, it possesses great clinical advantages in the diagnosis of the various inflammatory affections of the cerebral membranes and in the recognition of intraventricular hemorrhage as well as of hemorrhage within the spinal canal.

From the facility with which this little operation can be carried out it should not be long before lumbar puncture will form part of the routine work of every practising physician.

ENLARGED SPLEEN.

Proben (*Med. Jour.*, 1896, *lxiii*, 23) showed before the Society of the Alumni of Charity Hospital an infant, aged seventeen months, with a large splenic tumor, producing marked leucocytosis. When two months old it had been in a miserable condition, with sprue, bronchitis and anemia. It had been bottle-fed on condensed milk and farinaceous food. It had been brought for treatment in June, when about a year old, for the anemia and the poor general condition. The nurse said it had always been very pallid, with a cyanotic appearance around the mouth and eyelids at times. Alternately it suffered from indigestion and from bronchitis. There was constipation with fetid movements, which was difficult to manage. At times it suffered from otorrhea, a visible palpitation of the heart and the progressive anemia, which gave it an appearance as if it were suffering from malignant disease. The abdomen was always prominent. Examination, when the child was first presented, revealed the following: Marked pallor of the skin resembling a cachexia; the mucous membranes almost white, the lower incisors (which had appeared at the age of eleven months),

the following two incisors and two bicuspidis were discolored, as was seen in rachitis. The anterior fontanelle was open, very much depressed and enlarged, measuring about two by three inches. There was the rachitic rosary, and the epiphyses of the long bones were enlarged. The muscular development was poor. There were adenoid vegetations of the nasopharynx, and there was general adenopathy. The heart and lungs appeared normal. The abdomen was strikingly large, protuberant, tense, tympanitic over the right half, and dull, the dullness merging into flatness laterally on the left side. This dullness extended from the eighth rib down into the pelvis. Palpation discerned distinctly a large, hard, movable tumor, sharply defined and notched near the median line. A bruit was heard. The liver was enlarged, projecting two fingers' breadth below the ribs. There was slight lumbodorsal scoliosis. A diagnosis of rachitis with hypertrophy of the spleen and marked leucocytosis was made, and the patient was put under treatment after the blood had been examined and found to contain an excess of leucocytes and to show changes in the red corpuscles. Plasmodia were not found. Iodide of potassium with mercury was administered, but could not be borne by the patient, owing to irritability of the stomach. Inunctions were used for a few weeks without result. Quinine with arsenic was given without result, also iron, etc. Strict diet was enforced. The patient continued to get worse, and was sent to the country for three months, which improved it slightly. After its return it was seen and the tumor again examined. It had increased in size, occupying fully half the abdomen. The cold weather made the infant feel poorly, though its appetite was voracious. There was itching of the abdomen, and pain was experienced when the little one was allowed to stand, probably from a dragging of the tumor. It could not walk. As malarial disease and leucocythemia were excluded, the only etiological factor seemed syphilis, hence a fifth of a grain of mercury with chalk was given three times a day. After about three weeks' treatment there seemed to be a diminution in the size of the tumor, and the treatment was continued. Many would pronounce this a case of leucocythemia, but the blood examination had ruled this out. The only possible factor seemed to be syphilis. Why it had not improved at first it was impossible to say.

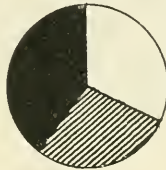
INFLUENCE OF SANITARY PROGRESS ON DIARRHEAL DISEASE IN CHILDREN.

This diagram is taken from a review (*Glasg. M. J.*, 1896, *xlv*, 64) of James B. Russell's book, "The Evolution of the Function

Glasgow. Age-Distribution of 100 Diarrhoeal Deaths.

5 Years.

1855-59



5 Years.

1860-64



10 Years.

1865-74



10 Years.

1875-84



9 Years.

1885-93



Under 1 year



1 year & under 5 years



5 years & Upwards



of Public Health Administration as Illustrated by the Sanitary History of Glasgow in the Nineteenth Century."

The diagram shows the influence of sanitary progress on diarrheal disease in children, and the following sentence from Dr. Russell explains it: "The actual state of the matter is that the death-rate under five years is now (1890-94) exactly what it was thirty years ago (1860-64), while the death-rate at five years and upwards is less by more than half." The whole meaning of this is that for young children the only effective sanitary inspector is the mother, and all the sanitary authorities can do is to give her every facility to be clean.

THE USE OF DRY HEAT AND OF HIGH TEMPERATURE IN THE TREATMENT OF JOINT DISEASES.

Dr. W. E. Wirt (*Med. J.*, 1896, *lxiii*, 20) read a paper with this title before the Mississippi Valley Medical Association. Shortly after reading a description of this treatment in the medical journals, he said he had encountered a case of rheumatoid arthritis, in which he had resorted to this method. The treatment had been followed by great improvement in the motion of the joint and in the comfort felt by the patient. Dr. Wirt also reported a case of rheumatism of a year's standing, in which there had been more or less fixation. He had broken up the adhesions, made use of the application of heat, and had raised the temperature to 290° F., which had been followed by decided improvement in the ease with which the patient could move the joint and in the relief from pain.

CLUB FOOT.

Ridlon (*Med. J.*, 1896, *lxiii*, 22), defined this condition as a distortion of the foot in its relation to the leg. The simple and compound varieties of club foot were dealt with. Nearly all the congenital cases presented the compound variety—equino-varus; a few presented equino-valgus; rarely was there seen a simple calcaneus. Of simple equinus, the author had met with but a single instance, and of simple varus and simple valgus he had seen none. Of the acquired varieties, simple equinus was by far the most frequently found; next in frequency we found simple valgus; then equino-varus, calcaneo-valgus, equino-valgus, simple varus, and varus in one foot and valgus in the other. The acquired deformity occurred more than three times as often as the congenital form. The etiology of the congenital forms was next dealt with, as well as that of the acquired forms.

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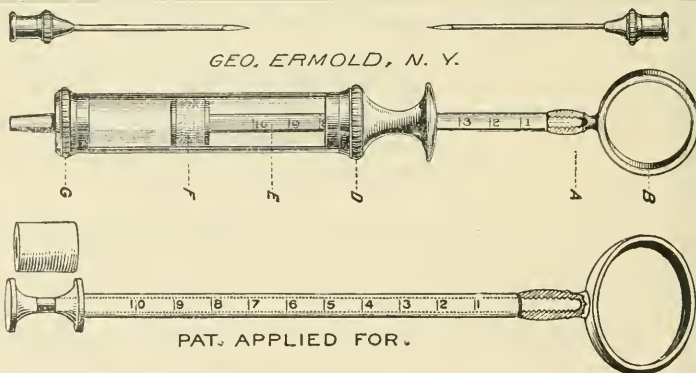
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